



*Patricia Lewis*  
*#257 Reply*  
*Brief*  
*9-20-02*

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of : Docket No.: OT-4328  
Frank W. Adams, et al. : Date: March 18, 2002  
Serial No.: 09/163,259 : Group No.: 3652  
Filed: September 29, 1998 : Examiner: S. McAllister

Title: ELEVATOR SYSTEM HAVING DRIVE MOTOR LOCATED BETWEEN ELEVATOR CAR AND HOISTWAY SIDEWALL

Director of Patents and Trademarks  
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**REPLY BRIEF**

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PURSUANT TO 37 C.F.R. § 1.193(b)(1)

1. **REAL PARTY IN INTEREST**

No additional comment.

2. **RELATED APPEALS AND INTERFERENCES**

No additional comment.

3. **STATUS OF CLAIMS**

No additional comment.

4. **STATUS OF AMENDMENTS**

No additional comment.

5. **SUMMARY OF INVENTION**

No additional comment.

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6. **ISSUE**

No additional comment.

7. **GROUPING OF THE CLAIMS**

No additional comment.

8. **ARGUMENT**

**(1) Whether the Examiner has met his burden to establish a prima facie case of obviousness under 35 U.S.C. 103 in the rejection of Claims 1 and 19 as unpatentable over Aulanko et al. in view of Pearson?**

In the Response to Argument section of Examiner's Answer, Examiner states that the combination of Aulanko et al. and Pearson discloses all of the elements of the claim.

Applicants do not dispute that the elements can be found in these two prior art documents. Applicants do disagree, however, with the allegation that this combination of references is proper.

First, this combination results in an elevator system that destroys the purpose of Aulanko et al. The stated goal of Aulanko et al. is to create a space saving elevator system that eliminates the need for a machineroom by using the available space within the hoistway. This goal is accomplished through the use of an axially flat machine to drive the elevator. This flat machine can be placed in the space between the car and the hoistway wall, with the axis of rotation of the machine extending outward from the wall. As a result, the machineroom is eliminated without expanding the space needed for the elevator system.

If flat ropes such as those disclosed in Pearson were to be combined with Aulanko et al., the traction sheave would have to be expanded to accommodate the flat ropes. As an example, Figure 2 from Pearson shows a traction sheave for use with flat ropes. To combine this type of traction sheave with the machine of Aulanko et al. would result in a flat *motor* having an *axially extended traction sheave*. For the elevator system that would result from this combination, the hoistway cross-sectional area would have to be expanded to accommodate the larger machine. Expanding the hoistway cross-sectional area clearly destroys one of the stated benefits of the claimed invention of Aulanko et al., that being the "efficient utilization of the cross-sectional area of the elevator shaft". Further, this combination destroys the ultimate goal of Aulanko et al., being to minimize the space required within the building for the elevator system. Expanding the cross-sectional area of the

hoistway throughout the vertical height of the building more than negates any space saving resulting from the elimination of the machineroom. The intended purpose of Aulanko et al. is destroyed by this combination and, therefore, this combination is improper.

In addition, Applicants wish to point out another reason this combination of Aulanko et al. and Pearson is improper. As stated in the Appeal Brief (page 5, lines 8-16), the use of steel straps would result in much larger diameter sheaves and, therefore, higher torque requirements for the motor driving the sheave. The higher torque requirements would necessitate a larger motor, which translates into a larger machine. As a result, the cross-sectional area of the hoistway would need to expand further to accommodate the motor and this further supports the argument that this combination would destroy the intended purpose of Aulanko et al.

Finally, Applicants wish to reiterate that the disclosure of Pearson is inoperable as a disclosure of a safe and practical elevator rope. For the many reasons provided in the Appeal Brief and confirmed by the evidence provided therein, one skilled in the art would disregard the suggestion of using flat steel straps as lifting ropes for elevators.

Therefore, with respect to Claims 1 and 19, this rejection has failed to establish a prima facie case of obviousness.

**(2) Whether the Examiner has met his burden to establish a prima facie case of obviousness under 35 U.S.C. 103 in the rejection of Claims 2-6 and 8 as unpatentable over Aulanko et al. in view of Pearson, and further in view of Olsen?**

For the reasons discussed in the Appeal Brief, Examiner has not met his burden to establish a prima facie case of obviousness under 35 U.S.C. 103.

In response to the comments in Examiner's Answer, Applicants point out that for motivation for this combination Examiner relies upon the statements in Olsen that "the entire weight of the system is carried on the selected wall supports. The manner of attachment,..., enables the installer to work in the close confines of the elevator shaft". This is precisely one of the defects of the combination of Olsen with the elevator system of Aulanko et al. and results from such hindsight reconstruction.

In Aulanko et al., the first advantage listed (column 1, lines 50-58) is that the elevator loads are transmitted through the guide rails such that the strength of the attachments of the guide rails to the walls need not be substantially increased. In this way, the elevator loads are transformed through the guide rails and to the pit, not to the walls. In Olsen, as pointed out in Examiner's Answer, the entire weight of the system is carried on the selected wall supports. Therefore, by picking and choosing specific features of dramatically different systems, the resulting system eliminates the cited advantages of Aulanko et al.

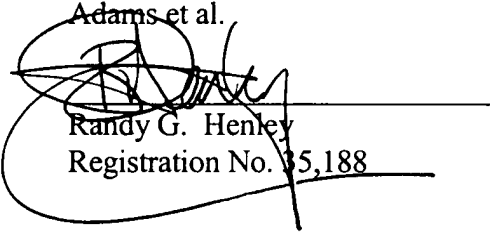
Therefore, with respect to Claims 2-6 and 8, this rejection has failed to establish a prima facie case of obviousness.

### CONCLUSION

As Applicants have traversed each and every rejection raised by the Examiner, it is respectfully requested that the rejections be reversed and the rejected claims be passed to issue. Please charge any additional fees or credit overpayment to Deposit Account No. 15-0750, Order No. OT-4328.

Respectfully submitted,

Adams et al.

  
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